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High Field Magnetism

Proceedings of the International Symposium on High Field Magnetism, Osaka, Japan, September 13-14, 1982

edited by M. DATE, *High Magnetic Field Laboratory, Faculty of Science, Osaka University, Japan*

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This International Symposium on High Field Magnetism was held as a satellite symposium of the International Conference on Magnetism, Kyoto, 1982.

The proceedings thereof are concerned mainly with magnetization processes and phase transitions under high fields, magnetic interactions, metals and alloys in high fields, spin and charge fluctuations, magneto-optics and high field magnetic resonances.

Furthermore the technical problems involved in producing high magnetic fields and high field measurements are presented with many figures and tables. The most recent developments in high field generation systems, experimental equipment and various measurements of magnetic properties are also included. The resulting book contains probably the most interesting collection of new problems and results recently obtained in high magnetic fields.

CONTENTS: **Parts 1. Introduction to High Field Magnetism.** Invited paper: On the Physics of High Magnetic Fields *(R. Orbach).* **2. Magnetic Interactions and Phase Transitions in High Magnetic Fields.** Invited papers: Phase Diagram and Field-Induced Exchange Flips in $Fe_xZn_{1-x}F_2$ *(A. R. King et al.).* High Magnetic Field Spin-Peierls Phase Diagrams *(D. Bloch, J. Voiron and L. J. de Jongh).* Four-Spin Exchange in Graphite Intercalation Compound C_6Eu *(M. Date et al.).* Other papers by: *I. Harada and A. Kotani; K. Adachi and M. Matsui; K. Okuda, K. Kurosawa and S. Saito; K. Motizuki et al.; M. Guillot et al.* **3. Metals and Alloys in High Magnetic Fields.** Invited papers: First Order Magnetic Transitions in Some Metallic Materials *(E. P. Wohlfarth);* High Field Magnetization in Magnetic Materials *(R. Pauthenet).* Other papers by: *N. Kunitomi and S. Tsuge; O. Yamada, H. Maruyama and R. Pauthenet; Y. Isikawa et al.; T. Kaneko et al.; F. Ono and O. Yamada; H. Hiroyoshi et al.; K. Fukamichi, R. J. Gambino and T. R. McGuire; Yang Fu-Min et al.; A. Isihara and Y. Shiwa.* **4. High Field Superconductivity.** Invited papers: Recent Research in High Field Superconductivity *(S. Foner);* High H_{c2} in $Pb_{1.2-x}Eu_xMo_6S_8$ *(K. Okuda et al.).* Other papers by: *Z.-H. Lee et al.; M. Ikebe et al.* **5. Spin and Charge Fluctuations in High Magnetic Fields.** Invited paper: Study of Spin- and Valence-Fluctuation Systems in the Amsterdam High-Field Installation *(F. R. de Boer et al.).* Other papers by: *T. Sakakibara, H. Mollymoto and M. Date; K. Hanzawa et al.; H. Ido et al.; H. Yashima, T. Satoh and H. Hiroyoshi; T. Suzuki et al.; A. Menovsky et al.* **6. High Field Magneto-Optics.** Papers by: *N. Kurodo and Y. Nishina; A. Misu, Y. Takada and H. Fukutani; H. Hori.* **7. High Field Magnetic Resonance.** Invited papers: High Field Electron Spin Resonance in the Submillimeter Region *(M. Motokawa).* Infrared Experiments in High Magnetic Fields *(F. Herlach et al.).* Other papers by: *K. Katsumata and J. Tuchendler; P. Janssen et al.; P. de Groot et al.* **8. High Magnetic Field Facilities and Techniques.** Invited papers: Reliable Solenoid for Long Pulses of Field and Magnetic Studies up to 50T *(V. I. Ozhogin, K. G. Gurtovoj and A. S. Lagutin).* High Magnetic Field Facility in Osaka University *(A. Yamagishi and M. Date).* Other papers by: *L. G. Rubin et al.; J. C. Picoche et al.; R. Gersdorf et al.; T. Sakakibara et al.; T. Yosida; G. Kido et al.; K. Nagayama and T. Mashimo; K. Bessho and S. Yamada; Y. Kakudate et al.; S. Miura et al.; M. Wake et al.* Index.

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Positron Annihilation

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Development in High Power Lasers and Their Applications

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